UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>03</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 February 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-34</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-34</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>23 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>See Continuation Sheet</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Continuation of Attachment(s)

3). Information Disclosure Statement(s) (PTO/SB/08),
Paper No(s)/Mail Date :02/24, 04/07, 05/19/2005, and 05/01, 12/18/2006.

DETAILED ACTION

1. This action is responsive to the application filed on February 23, 2004.

2. Claims 1-34 have been examined.

Priority

3. The application claims priority under Section 119 of US Provisional Application No. 60/451,368 on March 1, 2003. The priority date considered for this application is March 1, 2003.

Information Disclosure Statement

4. The Office acknowledges receipt of the Information Disclosure Statements filed on 02/24, 04/07, 05/19/2005, and 05/01, 12/18/2006. They have been placed in the application file and the information referred to therein has been considered by the examiner.

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention, "The disclosure describes," etc.

In the instant case, lines 12-15, which recited, *"This description is not intended to be a complete description of, or limit the scope of, the invention. Other features, aspects, and objects of the invention can be obtained from a review of the specification, the figures, and the claims"*, should be deleted.

Appropriate correction is required.

Claim Objections

6. Claims 7 and 11 are objected to because of minor informalities. Acronyms "XML" and "JSP" should be spelled out at the first appearance in claims.

Claim Rejections – 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-12 and 33 are rejected because the claimed invention is directed to non-statutory subject matter: "*A system to provide a software debugging environment ...*".

They amount to Functional Descriptive Material: "Data Structures" representing descriptive material per se or "Computer Programs" representing computer listings per se.

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast,

a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions. See MPEP 2106.

Under the principles of compact prosecution, claims 1-12 and 33 have been examined as the Examiner anticipates the claims will be amended to obviate these 35 USC § 101 issues. For example, - -A system embodied in a storage medium to provide ...- - as disclosed in page 14, [0060], or - -A microprocessor-controlled system to provide ...- - as disclosed in page 14, [0061].

9. Claim 34 is rejected because the claimed invention is directed to non-statutory subject matter, i.e., "A computer data signal embodied in a transmission medium..." (line 1, emphasis added).

A computer-readable medium product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of Sec. 101.

See Annex IV (c) Electro-Magnetic Signals, Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (signed October 26, 2005) - OG Cite: 1300 OG 142. Online version can be retrieved at <http://www.uspto.gov/ web offices/com/sol/og/2005/week47/patgupa.htm>.

Claim Rejections – 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-6, 8-9, 13-17, 19, 23-27, 29, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Publication No. 2005/0278585 A1 to Spencer (hereinafter "Spencer").

Claim 1:

Spencer discloses *a system to provide a software debugging environment, comprising:*

an executing software program containing at least one data structure (e.g., FIG. 4, Code Window 340, program code containing at least one data structure);

at least one abstract view capable of displaying and/or editing at least one abstract content of the at least one data structure (e.g., FIG. 4, Locals Window 320, [0044], Autos Window 310, [0043]); *and*

at least one filter capable of defining a displaying and/or editing property of the at least one abstract view (e.g., FIG. 4, Pop-ups 312 and 314, [0046-0049]),

such property can include at least one of: which of the at least one abstract content is displayed, a format in which it is displayed, and how it is edited. (e.g. [0049], [0022-0023], [0045]).

Claim 2:

The rejection of claim 1 is incorporated. Spencer also discloses *the system is at least partially implemented using Java language* (e.g., [0021], [0037]).

Claim 3:

The rejection of claim 1 is incorporated. Spencer also discloses *at least one editor associated with the at least one abstract view capable of at least one of: allowing the at least one abstract content to be modified through the at least one abstract view; and validating an input value to the at least one abstract content against an allowed value for the at least one abstract content* (e.g., [0045]).

Claim 4:

The rejection of claim 1 is incorporated. Spencer also discloses *the at least one abstract view is capable of presenting the at least one abstract content of the at least one data structure without showing a physical implementation of the at least one data structure* (e.g., [0043-0045]).

Claim 5:

The rejection of claim 1 is incorporated. Spencer also discloses *each of the at least one abstract view can be individually selected for display* (e.g., [0041-0042]).

Claim 6:

The rejection of claim 1 is incorporated. Spencer also discloses *two or more of the at least one abstract view are capable of displaying and/or editing the same one of the at least one abstract content without being deadlocked* (e.g., [0040]).

Claim 8:

The rejection of claim 1 is incorporated. Spencer also discloses *a component capable of interactively performing at least one of: selecting a subset of the at least one of abstract view for display; and defining the displaying and/or editing property of the at least one filter* (e.g., [0043-0045]).

Claim 9:

The rejection of claim 8 is incorporated. Spencer also discloses *the component can be realized via an interface to an Integrated Development Environment IDE* (e.g., 0005-0008]).

Claims 13-17 and 19:

Claims 13-17 and 19 are method versions, which recite the same limitations as those of claims 1-6 and 8-9, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 13-17 and 19.

Claims 23-27 and 29:

Claims 13-27 and 29 are machine readable medium versions, which recite the same limitations as those of claims 1-6 and 8-9, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 23-27 and 29.

Claim 33:

Spencer discloses *a system to provide a software debugging environment, comprising:*

means for displaying and/or editing at least one abstract content of at least one data structure in an executing software program (e.g., [0040-0042])

via at least one abstract view (e.g., [0043-0044]); and

means for defining a displaying and/or editing property of the at least one abstract view via at least one filter (e.g., [0046-0049]),

such property can include at least one of: which of the at least one abstract content is displayed, a format in which it is displayed, and how it is edited (e.g., [0049], [0022-0023], [0045]).

Claim Rejections – 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 7, 10-12, 18, 20-22, 28, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer in view of US Patent No. 7,051,316 B2 to Charisius et al. (hereinafter "Charisius").

Claim 7:

The rejection of claim 1 is incorporated. Spencer does not explicitly discloses *the at least one filter can be defined via configuration information stored in a file, which can be an XML file.*

However, in an analogous art, Charisius further discloses *the at least one filter can be defined via configuration information stored in a file, which can be an XML file* (e.g., FIG. 51-52, col.42: 10-23; col.44: 15-41).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to provide an improved software development tool that crates a graphical representation of source code regardless of the programming language in which the code is written as suggested by Charisius (e.g., col.11: 4-11 and 29-38; col.38: 28-61).

Claim 10:

The rejection of claim 1 is incorporated. Charisius further discloses *at least one component capable of supporting the debugging of a JSP page and a machine generated servlet that implements the JSP page* (e.g., FIG. 49, col.38; 44-66).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to as set forth above.

Claim 11:

The rejection of claim 10 is incorporated. Charisius further discloses *the at least one component can perform at least one of: extracting and displaying a code and/or a content of interest, and mapping them to a format used in a source code in a JSP page, for use with executing a JSP servlet; following an execution path through at least one level of redirection using at least one tag; extracting and manipulating a streaming data from a content of a buffer used to transmit and receive the streaming data; and setting at least one break point in a JSP page and stepping through the execution of the page based on the displaying property* (e.g., col.39: 1-54).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to as set forth above.

Claim 12:

The rejection of claim 11 is incorporated. Charisius further discloses *the streaming data can be extracted by inserting a wrapper or "writer" class around the JSP servlet* (e.g., col.40: 31-66).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Charisius' teaching into Spencer's teaching. One would have been motivated to do so to as set forth above.

Claims 18 and 20-22:

Claims 18 and 20-22 are method versions, which recite the same limitations as those of claims 7 and 10-12, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 18 and 20-22.

Claims 28 and 30-32:

Claims 28 and 30-32 are method versions, which recite the same limitations as those of claims 7 and 10-12, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 28 and 30-32.

Conclusion

14. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone is (571) 272 8570. The examiner can normally be reached on the first Monday of the bi-week, and every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.
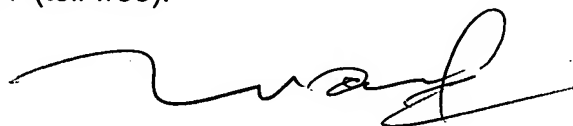
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Dao

TUAN DAM
SUPERVISORY PATENT EXAMINER